

Appl. No.: 10/017,924
Attorney Docket No. 10541-775
Reply to Office Action of May 18, 2004

III. Listing of the Claims:

1. (Currently amended): An interface between a assembly having a driving member and a driven member, the interface comprising:

the driving member having a first polygonal interface length, said first polygonal interface length having at least one surface selected from the group consisting of concave and convex surfaces; and

the driven member having a second matching polygonal interface length having at least one surface corresponding to said first polygonal interface,

wherein one of the first and second polygonal interfaces lengths includes a twisted portion that is twisted from 0° 10' to 1° along an axis of the length first straight segment, a second straight segment, and a twisted segment positioned between the first and second straight segments wherein, the first segment, the second segment, and the twisted segment all engage the other one of the first and second polygonal interfaces.

2 - 4. (Cancelled).

5. (Currently amended): The assembly interface of Claim 1 wherein the driven member comprises a shaft having a male polygonal length, wherein the twisted segment is with at least one portion of the length twisted from about 0° 20' to about 0° 50'.

6. (Currently amended): The assembly interface of Claim 1 wherein one of the driving member and the driven member is straight.

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7. (Currently amended): The assembly interface of Claim 1 wherein the first polygonal interface length has a relative eccentricity of from about 1.5% to about 4%.

8. (Currently amended): The assembly interface of Claim 1 wherein the driven member comprises a shaft having a concave male polygonal interface length with a number of sides selected from the group consisting of 3 to 12.

9. (Currently Amended): A method of interfacing a driving member with a driven member, the method comprising:

providing a driving member with having a first polygonal interface length and a driven member with a second matching polygonal interface length, wherein one of the first and second polygonal interfaces driving member and the driven member has a first straight segment, a second straight segment, and a twisted segment positioned between the first and second straight segments wherein, the first segment, the second segment, and the twisted segment all engage the other one of the first and second polygonal interfaces and portion of the length twisted segment is twisted from about 0° 10' to about 1° between the two straight segments portions along an axis of the assembly length; and

joining the driving member with the driven member.

10. (Currently Amended): The method of Claim 9 wherein the driven member comprises a shaft and the driven driving member comprises a flange.

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11. (Currently Amended): The method of Claim 9 wherein the driven member comprises a shaft having a male polygonal interface length.

12. (Currently Amended): The method of Claim 9 wherein the driven member comprises a shaft having a male polygonal interface length, wherein the twisted segment is with at least one portion of the length twisted from about 0° 20' to about 0° 50'.

13. (Original): The method of Claim 9 wherein the driving member and the driven member comprise one of a group consisting of a compressor, a pump, a machine tool, a mechanical drive, a generator, and a motor.

14. (Currently Amended): A coupling for an automotive drive shaft, the coupling comprising:

a shaft having a first polygonal interface length, said first polygonal interface length selected from the group consisting of concave, convex and straight surfaces; and

a mounting device having a second matching polygonal interface length, wherein one of the mounting device and the shaft first and second polygonal interfaces includes a first straight segment, a second straight segment, and a twisted segment positioned between the first and second straight segments wherein, the first segment, the second segment, and the twisted segment all engage the other one of the first and second polygonal interfaces;

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the twisted segment being has a portion of the polygonal length twisted from about 0° 10' to about 1° between two straight portions.

15. (Original): The coupling of Claim 14 wherein the mounting device comprises a flange.

16. (Currently Amended): The coupling of Claim 14 wherein the first polygonal interface length of the shaft comprises a male polygonal length with the twisted segment being portion of the length twisted from about 0° 20' to about 0° 50'.

17. (Currently Amended): The coupling of Claim 14 wherein the first polygonal interface length has a relative eccentricity of from about 1.5% to about 4%.

18. (Original): The coupling of Claim 14, wherein one of the shaft and the mounting device are straight.

19. (Previously presented): The coupling of Claim 14 wherein the shaft has a concave male polygonal length with a number of sides selected from the group consisting of 3 to 12.

20-33. (Cancelled).